Superconducting Module & Test Facility

Meson Test Facility

A chalk talk

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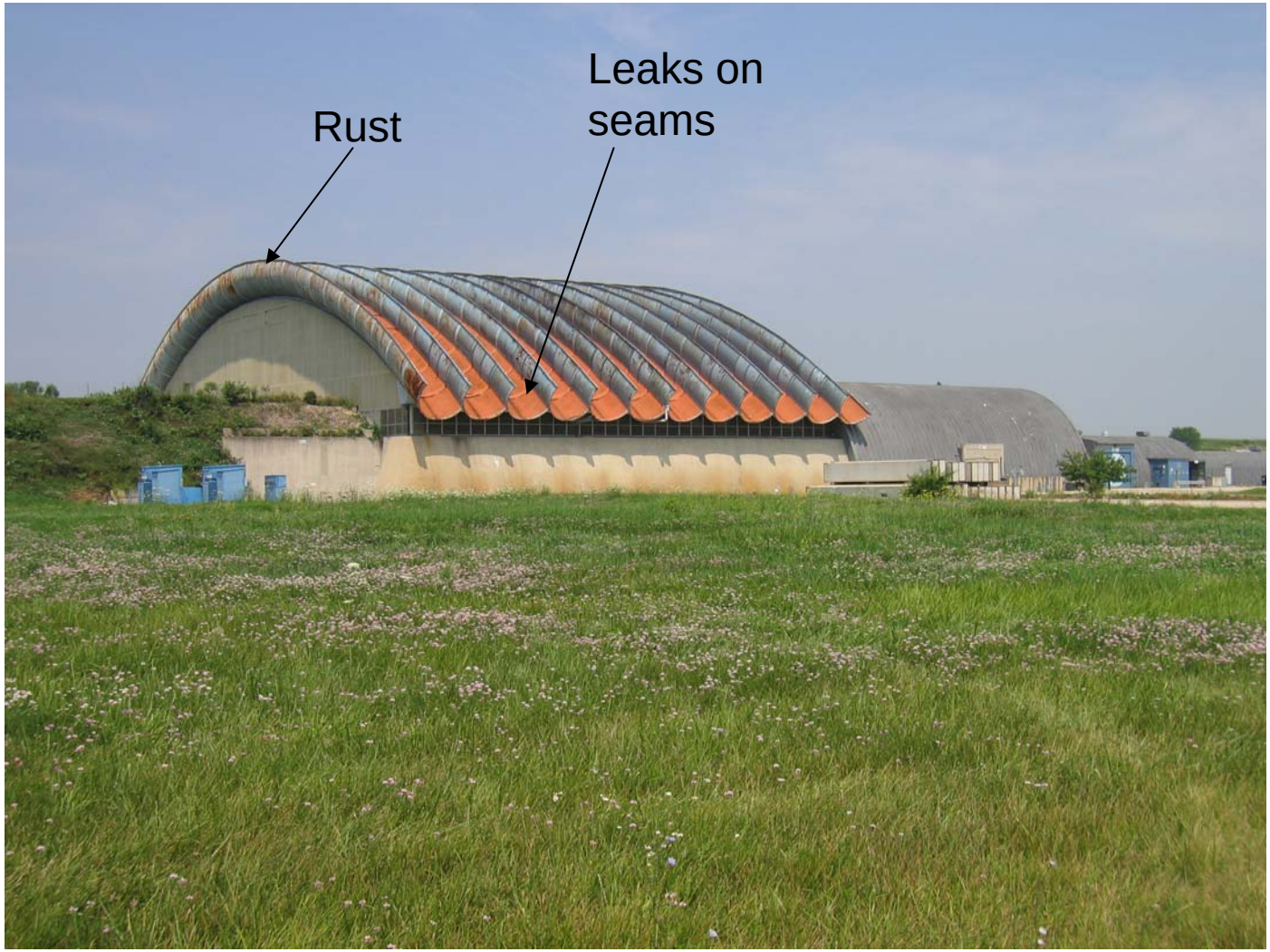
Why Meson

- Advantages
  - Available cryogenics
  - Available space, including a long beam line
  - Available power
- Disadvantages
  - We have to clean up the Meson East area (old fixed target experiment) and do some infrastructure maintenance

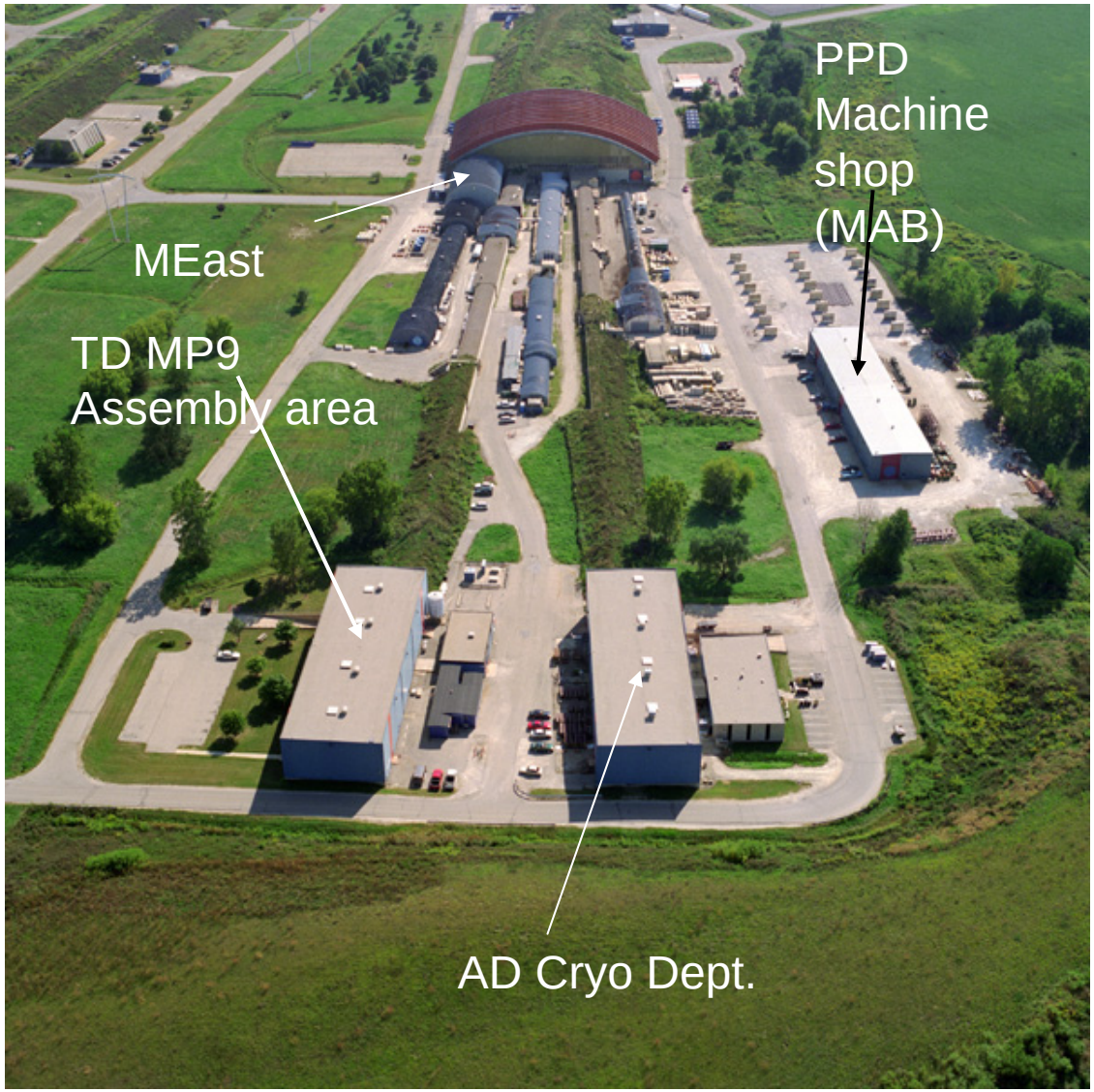
What we plan to do

- A preliminary plan
  - The goal is to be inclusive - a National facility meeting all requirements for beta=1, beta<1, and CW modules, and cavity testing
  - EOI submitted to the Director

The Meson Detector Bldg.



Orientation



What are we facing?

And a Bone yard

But we have done it before in Meson!

Already Making Good Progress

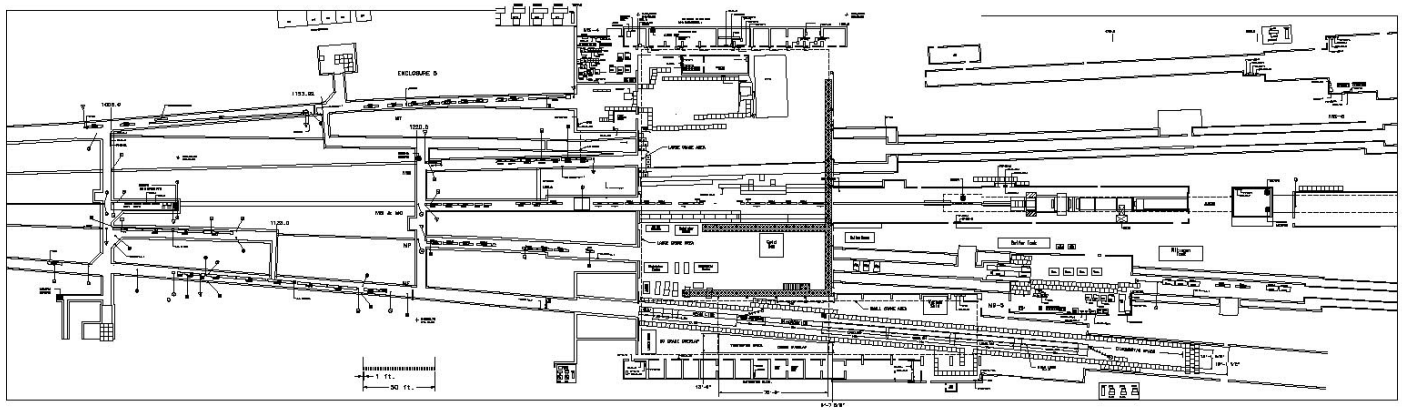
One months worth of work so far!

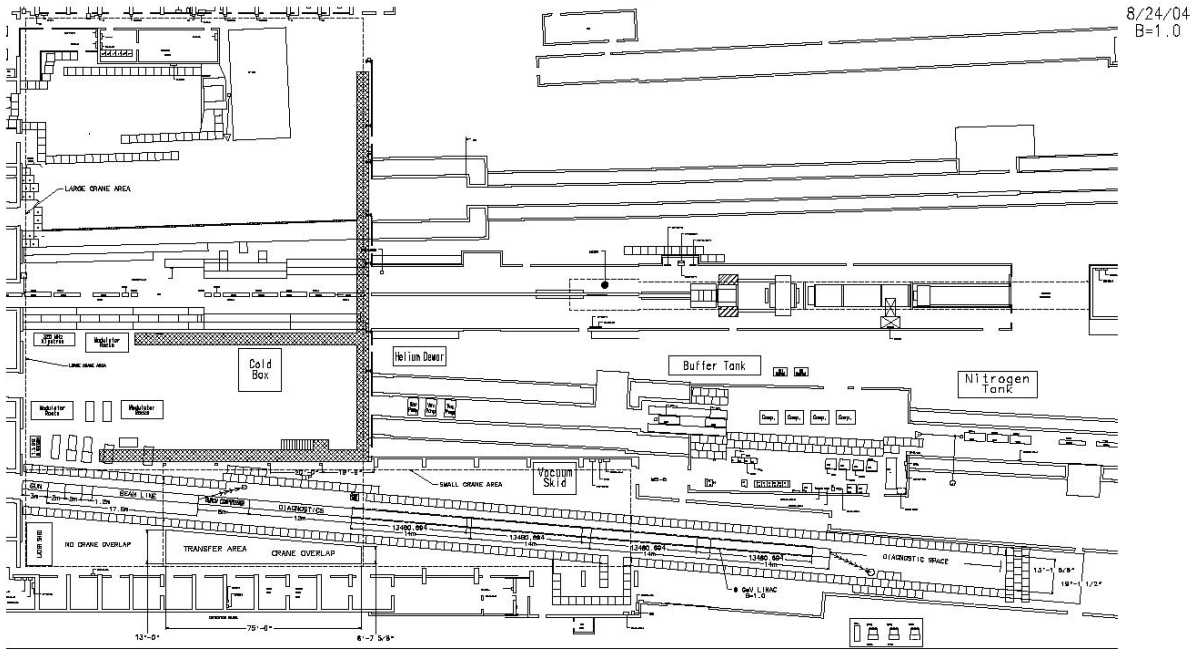
The Rewards

- **Three satellite refrigerators operating as liquefiers**
  - 4000 liters LHe inventory + equal gas storage + controls
  - Total power equivalent to ~ 90 Watts at 2 K
    - We are assuming 60 watts @ 2 K available
- **Low temperature via vacuum pumping on helium**
  - Two vacuum pumps each capable of >10 g/sec @ 20 torr (2 K)
  - Transfer lines are presently close to needed locations

Part of the cryogenic plant

Where we are going-





Conclusion

Plan for a 0^{th} order test Oct/Nov of ’05.

- Cool down short High Gradient Module to 4.5K° (1m high gradient cavity)
- Prepare for RF power testing
- Then cool to 1.8Kº if funding available

Lot of work to do but ready willing and able crew from around the lab.

Forming groups from around the Nation.